Appendix C

Using Map Editors

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Map layers can be any of the seven formats supported by ResSim and described in Chapter 3, Section 3.4.1. These formats include ArcView® Shapefiles, AutoCAD® DXF files, Raster images, United States Geological Survey (USGS) Digital Line Graphs, USGS Digital Elevation Model files, ASCII NET TIN files, and ArcInfo® DEM files. ResSim Version 1.1 allows you to configure several options for each type of map (except for AutoCAD® DXF files). Additional customization is in development for future versions of ResSim.

To access the map layer editors for a map layer, open the **Layer Selector** (Figure C.1) by selecting **Layers...** from the **View** menu of any module (note that some layers are visible only in specific modules; see Chapter 4). Double-click on the map layer name in the Layer Tree or right-click on the map layer name and select **Properties** from the shortcut menu. An editor specific to the type of map will open.

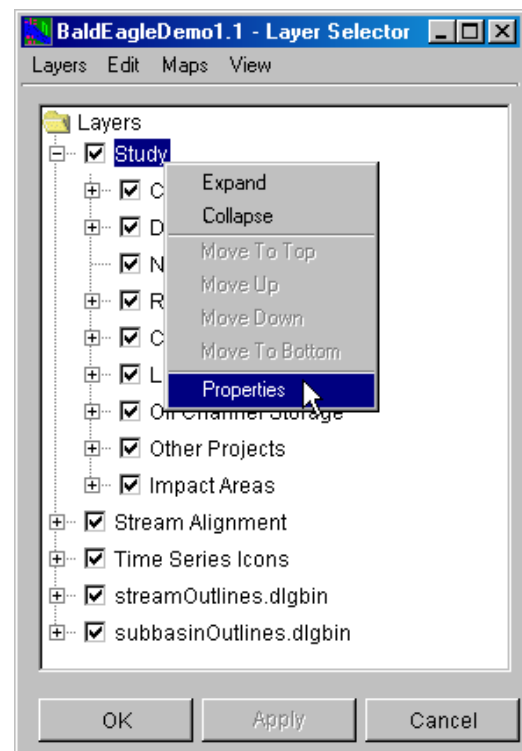The following sections describe the map layer editors currently available in ResSim.

Figure C.1 Layer Selector Dialog Box

C.1 USGS Digital Line Graph Maps (*.dlg)

If the map layer you wish to configure is a USGS Digital Line Graph map (*.dlg*), the **Properties** command opens the **USGS Digital Line Graph Editor** (Figure C.2). The location of the map in your ResSim directory is shown at the top of the dialog box. When ResSim interacts with a *dlg* file, it automatically creates a *dlgbin* file for use within the watershed.
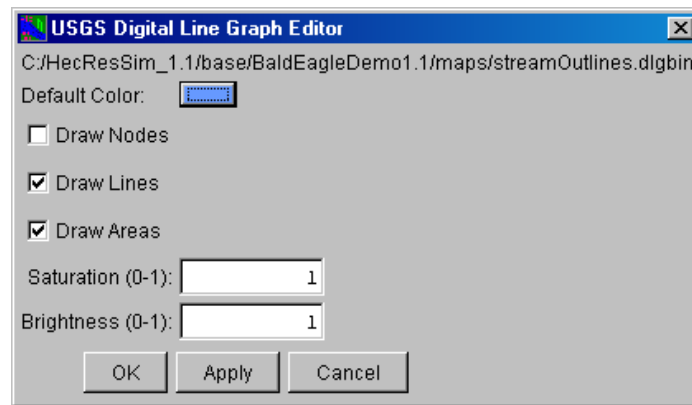
Figure C.2 USGS Digital Line Graph Editor

With this properties editor, you can specify the **Default Color** of the map and choose whether or not **Nodes**, **Lines**, and **Areas** are displayed in the watershed. You can also set the **Saturation** and **Brightness** of the display. You control the **Saturation** (the amount of black) and the **Brightness** (the amount of white) by typing in a number between 0 and 1.

When you click on the **Default Color** button in the USGS Digital Line Graph Options Editor, the **Color Chooser** appears (see Appendix D).

C.2 ArcView® Shapefiles (*.shp)

This layer type is the native data structure for the ArcView® GIS program. Shapefiles store non-topological geometry and attribute information for the spatial features of a data set. There are three kinds of shapefiles (*.shp): Line shapefiles, Polygon shapefiles, and Point shapefiles.

C.2.1   Line and Polygon Shapefiles

If the map layer you wish to configure is a Line shapefile (e.g., rivers and streams) or a Polygon shapefile (e.g., lakes), the **Properties** command opens the **Shapefile Display Options** dialog box (Figure C.3). The location of the map in your ResSim directory is shown at the top of the dialog box.

With this properties editor, you can choose whether or not **Labels**, **Lines**, and **Areas** are displayed in the watershed.

To specify colors, you can choose **Draw Using Default Color** or you can select the component you wish to customize (*e.g.,* AREA). The colors and values associated with this component will appear in the **Color/Value** table. Double-click on the color table to access the **Color Chooser** (see Appendix D).

Figure C.3 Shapefile Display Options Dialog Box
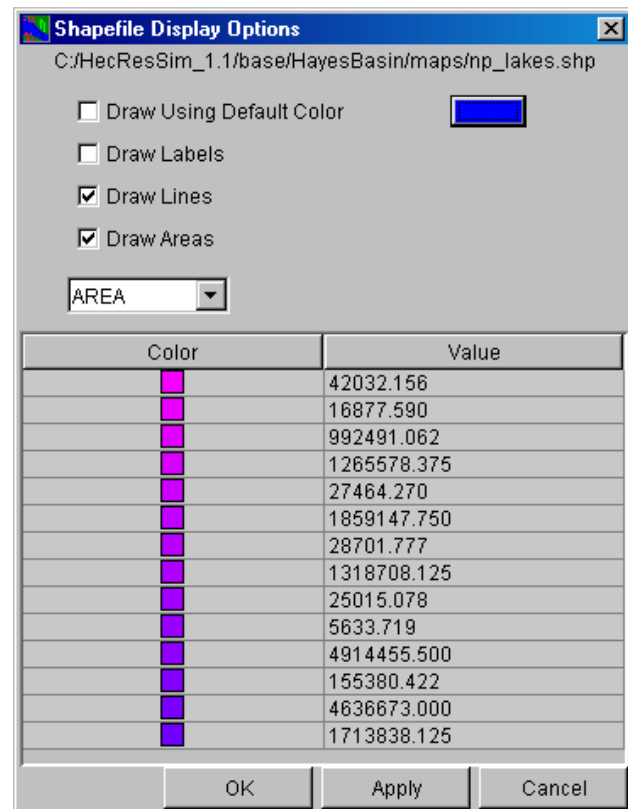
Click **OK** to close the **Shapefile Display Options** dialog box. From the **Layer Selector** dialog box, click **Apply** and the color for the selected field will appear in the display area. If you wish to save your changes, from the **File** menu, choose **Save Watershed**. Changes are saved to a file with the extension of *.gdr*. For example, in Figure C.3, the shapefile name is *np_lakes.shp* and if you made changes and saved the watershed, a file named *np_lakes.gdr* is created in the *maps* directory for your watershed.

C.2.2   Point Shapefiles

If the map layer you wish to configure is a point shapefile, the **Properties** command opens the **Point Color Chooser** dialog box (Figure C.4), which works exactly like the **Color Chooser** (see Appendix D for instructions). From the color palette, select a color and click **OK**. The **Color Chooser** will close. From the **Layer Selector** dialog box, click **Apply** and the color for the points will appear in the display area.
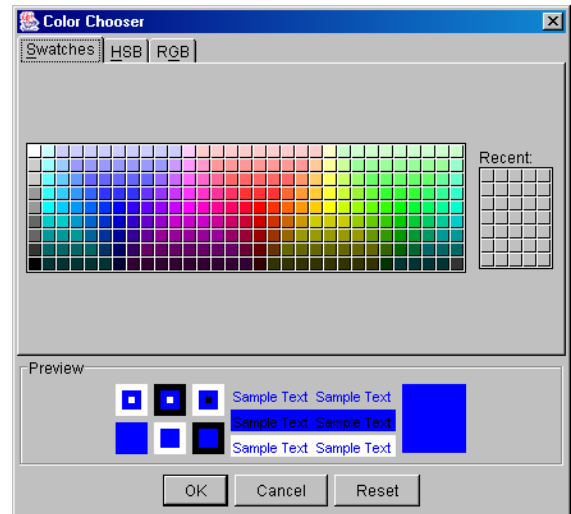

Figure C.4 Point Color Chooser Dialog Box

C.3 ArcInfo® DEM, ASCII DEM, and ASCII NetTIN Maps

If the map layer you wish to configure is an ArcInfo® DEM (**.asc*), ASCII DEM (**.dem*), or ASCII NetTIN (**.net*) file, the **Properties** command opens the **Elevation Options** Editor (Figure C.5). The filename of the map appears at the top of the dialog box.

This properties editor allows you to choose the following color contour from the list: Aspect Shading, Grayscale, Linear, Precipitation, Red-Green-Blue, or Terrain. You can also define the **Tic Interval** and set the Maximum/Minimum values for **Contour Limits**. By default, Contour Limits are set to **System Specified Min/Max Values**. If you deselect the checkbox, you can enter custom values. The **Draw Edges** checkbox is specifically for ASCII NetTIN files. If selected, the edges of the triangles that make up an ASCII NetTIN file will be drawn.

You can control the **Brightness** (the amount of white, measured from 0.0 to 1.0), **Saturation** (the amount of black, measured from 0.0 to 1.0), and **Transparency** (the level of opacity or alpha, measured from 0.0 to 1.0) of your gridded data layer either by moving the sliders or by typing values into the white text fields. The color scale on the right side of the editor will update according to your selections.

If you are using elevation maps, you may wish to choose Aspect Shading as the color contour and activate the **Aspect Shading** option. Aspect Shading uses a single color and makes the map appear in relief by placing an imaginary light source above the map and shading the elevation contours.

When the Aspect Shading option is selected, you can use the **Angle** slider to adjust the angle of the light source.

By default, the **Maximum Clipping** and **Minimum Clipping** options are deselected. If you activate these options, the **Value** sliders and **Color** buttons become available. The **Value** sliders allow you to specify the amount of Clipping within the Contour Limits you have specified; you can also type values into the text boxes. When you click on the **Color** buttons, the **Color Chooser** appears (see Appendix D).
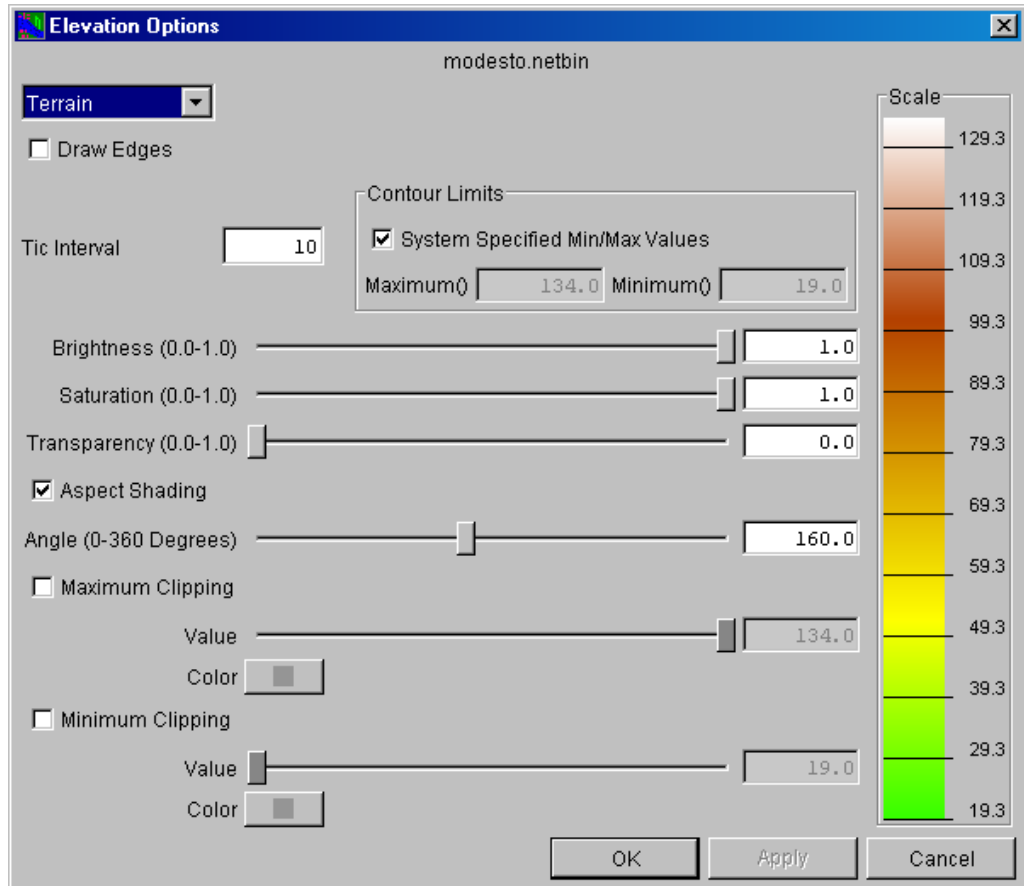

Figure C.5 Elevation Options Dialog Box